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ABSTRACT

The Empire State College does not have a traditional campus but operates from a variety of leased facilities located in major population centers and in smaller communities where there appeared to be a clear need for such a college. Who are the students attracted to an individualized, contract learning type of program and why do they seek out Empire? What are the components of contract learning, how do students carry it out, and how do they evaluate it? What are the educational outcomes from contract learning and how satisfied are students with this approach to learning? Answers to these questions imply: contract learning seems a particularly well-suited format for the older, working, married adult who may have attended several colleges some years ago. Students differ at entry and throughout the degree program in their ability to handle independent study. The role of mentor becomes crucial if the college is to foster self-learning. An experienced, resourceful, and mature group of faculty committed to the ideal of independent learning is needed to effectively work with students having different styles of learning. The contracting process itself has substantial educational benefits apart from the subject matter the contract addresses. (Author/KE)

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EDUCATIONAL OUTCOMES FROM CONTRACT LEARNING AT EMPIRE STATE COLLEGE

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Educational Outcomes from Contract Learning at Empire State College

Empire State College opened its doors in fall, 1971 and today has over 3000 students. Empire provides individualized education through a contract learning process which integrates student needs and interests with College objectives.* Each student works with a faculty member, called a mentor, to design a degree program that consists of contract learnings undertaken while enrolled at the College and learnings attained prior to entering the College. The College recognizes that significant college-level learnings can occur outside the formal classroom setting. Students present to the College a portfolio of prior learnings which is evaluated in an assessment process and months of credit are awarded. To provide individualized education to students throughout the state, Empire has established a network of learning centers, learning units and special programs in twenty-two different locations. The College does not have a traditional campus but operates from a variety of leased facilities located in major population centers and in smaller communities where there appeared to be a clear need.

This paper is organized around three central topics. First, who are the students attracted to an individualized, contract learning type of program and why do they seek out Empire? Second, what are the components of contract learning, how do students carry it out, and how do they evaluate it? Third, what are the educational outcomes from contract learning and how satisfied are students with this approach to learning?

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*Since the late 1960's a number of new nontraditional colleges have been established which emphasize individualized education, contract learning, assessment of work experience, competency-based education, and the external degree. See Houle, 1973; Carnegie Commission on Higher Education, 1971; Gould and Cross, 1972; Cross and Valley 1974; Dressel and Thompson 1973.

Student Characteristics

During winter, 1974, the Office of Research and Evaluation, as part of the Institutional Self Study for accreditation, administered a comprehensive Student Experience Questionnaire (SEQ) to a random sample of students. Four hundred and eighty three students returned usable questionnaires (response rate 69%) which represented 27 percent of the total student enrollment at the time.

Empire State College students were different from the typical college student in most demographic dimensions.* The average age was 37 years, ranging from 19-68. Only ten percent were in the traditional college age group of 22 and younger. Almost 60% of the students were between ages 30 and 55. A striking feature of ESC's age distribution was the fairly even spread among adults from age 23 to age 58 (see Appendix A, Table 1 for these data.** All subsequent references to tables in the paper are found in this appendix).

Sixty-three percent of the SEQ sample was married, 27 percent single and nine percent widowed, divorced or separated. Slightly more than half (54%) were women but only nine percent were housewives. Sixty percent of Empire's students worked full time and another ten percent worked half time. One-third of these people were employed in professional and semi-professional jobs; one-fifth in skilled, semi and unskilled jobs, and another one-sixth were in middle-level supervisory jobs. Few classified their occupation as student (8%) and only three percent reported that they were unemployed (Table 2). Sixty-four percent described their present occupation as rewarding and only seven percent unsatisfying.

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*Empire students differed considerably in their background characteristics and interests from the typical college students and the profile of older freshmen reported in the American Council on Education studies. See Astin, 1974a and Holmstrom, 1973.

**A number of fascinating studies and papers have been published recently which focus on the significance of age for adult development. See Levinson et. al. 1974; Gould 1974; Sheehy, 1974; Glass and Harshberger 1974; Neugarten, 1971; Hodgkinson 1974; Chickering 1974; and Maas and Kuypers 1974. Since ESC students span such a wide age range, the Research Office in future analyses will examine the age variable in relation to educational needs and adult development.

Almost 80 percent of Empire's students had prior college experience. Twenty-nine percent had associate degrees and eight percent even had graduate level training or a degree upon admission. Eight percent had only a high school diploma or less formal education while another four percent had been to a trade school (Table 3).

When asked why they enrolled at ESC, students cited as the top three reasons--receive credit for prior learning (35%), the independence allowed by the college (30%), and flexibility (21%). Flexibility for Empire students meant not only a lack of formal requirements such as class attendance but more importantly the chance to work and study simultaneously. The students were also asked to rank their reasons for studying at the college. The top three reasons were: academic preparation for graduate school (30%); vocational advancement (29%); and to satisfy personal desires for a college education and to increase the ability for self-directed learning (20%). More traditional liberal arts objectives (i.e., increase appreciation for art) were a distant fourth (11%). In sum, the reasons cited by students reflected major changes from the more traditional time, place and manner of offering undergraduate education. (See Tables 4 and 5 for full list of reasons.)

What kind of students were attracted to Empire? A general picture has emerged. Empire students were most likely to be married, older, working adults who were reasonably content with their present occupation. The students had substantial previous college experience and were attracted by the flexibility, the philosophy of the college, and the opportunities for independent study. As a group, the students were highly motivated, practical in orientation and have strong vocational and career reasons for pursuing a college degree. As yet, Empire is less attractive to the very young, the very old, minorities, the unemployed, the occupationally disenchanted or those individuals with a high school or trade school background.

Contract Learning at the College

Each student prepares a degree program statement which brings together his goals and needs with the educational objectives and program of the College. The degree program is a comprehensive plan of study which provides the framework for assessing prior learning and setting up individual learning contracts. Once a decision is made on assessing prior learning, the remainder of a student's degree program is fulfilled through a series of learning contracts.

Academic work is thus organized through learning contracts.* As a plan for learning developed jointly by the student and his mentor, the learning contract has four parts: the general purposes which underlie the student's work; the specific purposes which the particular contract aims to serve; the learning activities and resources that the student will undertake; and the basis for evaluation of the work completed. The contract describes the rights and responsibilities of both student and mentor for a designated period of time within the student's overall degree program. A contract may be either full time or half time. A full-time contract normally assumes that the student will study 36-40 hours a week while a half-time contract is half that amount. The length of the contract is determined by the student's degree plan but usually the contracts vary from one month to six months long. Academic credit awarded for contracts is stated in terms of contract months. A contract month by definition is four weeks.

Data from the Student Experience Questionnaire on contract learning were organized around four topics: the degree to which students individualized their contracts; the nature of student/mentor interaction; the kinds of learning resources used; and evaluation of the contract method for learning.

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*A growing number of colleges across the country are experimenting with the contract mode of learning. For discussion of contract learning, see Avakian, 1974; Palola and Bradley 1973. The Research Office has found only two empirical studies so far that report data about contract learning - Stern 1973 and Barlow 1974.

Degree of Independence in Learning Contracts

The above discussion of learning contracts highlights their unique character. Contracts are tailored to individual goals, needs and capacities. They build on the student's background and can take advantage of community resources the student already has identified. Students can move at their own pace, setting the work load and length of the contract in terms of the overall demands on their time. Finally, student participate in determining how the contract work will be evaluated and how this relates to the student's objectives. Learning contracts are intended to give the student a great deal of flexibility and individuality in approaching his college learning.

To what extent does this individualization of learning happen? Can we sort out different kinds of learning contracts and identify different kinds of learning experiences student have? Are some students' contracts more highly structured by the mentor because the student is not ready for such independent study? We begin to answer these questions by analyzing student responses on how their contracts were constructed.

In analyzing the student's influence on contract preparation, we found that students vary considerably in degree of independence manifested. One-fifth of the students were easily classified as very independent in making the decisions about their contract learning. These students said they selected the contract topics, selected almost all the learning resources used, selected the evaluation strategy to be followed and actually wrote first and later drafts of the contract. At the other end of the continuum, 26 percent of the students reported that their mentor was active in structuring the ingredients of the contract. These more dependent learners allowed their mentors to shape the academic content and evaluation procedures of the contract. In between the independent and dependent groups were a mixed group. This forty-six percent reported working jointly with their mentor in setting up contracts (Table 6).

A second question addressed the student's perception of the mentor role during the contract. Although the pattern of response was similar to the preceding question, the highly dependent student role was less frequent. Only seven percent of the students indicated that their mentor acted as a tutor, presenting his knowledge on the subject and assigning readings to be mastered as in a traditional college. On the other hand, almost one-third (32%) stated that the mentor served as a resource facilitator, giving the student responsibility for contract activities and assisting where needed. Fifty-three percent of the responses were in a mixed category, where both the student and the mentor worked together on contract activities (Table 7).

In comparing data in Tables 6 and 7, we found that more students tend to rely on their mentors for structure and guidance in preparing a contract, but fewer students rely on their mentors for such structure and tutoring when actually carrying out the contract activities. In both tables, there were substantial numbers of students reporting highly independent and dependent approaches to contract learning. These differences suggest refinements to the general independent learner label. Students may vary in the degrees of independence for contract design, contract implementation and contract evaluation. Further, students may move from a state of dependence to one of independence as they complete one, two or three learning contracts. Future research should specify the contract conditions under which independent learning is more effective.

Nature of Student/Mentor Interaction

Students met with their mentors an average of once every two weeks. More than one quarter (27%) met their mentors once a week or more often while another one-fifth met monthly or less often (Table 8). Most students felt that their mentors welcomed contact and only six percent reported their mentors "occasionally appeared not interested in their work." The distribution of contacts showed that mentors were available to meet the particular needs of students when they arose and welcomed such contacts when they occurred.

What do students and mentors talk about during these meetings? Most of the time for most students was spent on the content, planning and evaluation of contracts, with considerable attention paid as well to use of learning resources and the student's future plans. Three out of ten students reported they spent a great deal of time discussing topics in the mentor's field of interest. Few students spent contract time on bothersome administrative problems (such as scheduling or billing) or on problems from their personal life (see Table 9). Students and mentors then focused their attention on academic matters and pursued them during most of the contract periods.

Finally, students were asked how they felt about their contract experiences. Relatively few students stated they were frequently worried (10%), bored (4%), confused (7%) or concerned about mentor evaluation of their work (13%). On the other hand, most students said they were frequently interested (87%), challenged to do their best thinking (79%), confident (73%), and found the connections of life and learning exciting (81%). In addition, students indicated learning resources were available when needed (75%) and opened up new worlds of learning (62%) (Table 10). Except for a small minority of students who experienced anxiety and difficulty during their contracts, the vast majority of students found their contract activities a challenging, exciting, stimulating learning experience.

Learning Resources Used

One of the most attractive features of Empire State College is the wide array of learning activities and resources that may be used in contracts. Learning contracts may involve independent study under the guidance of a mentor or tutor, taking a formal course at another college, working with an ESC module, a correspondence course or a media course designed for self-study. The student may become an intern in a government or social agency, elect to work on a cooperative project with fellow students or travel abroad with a specific study plan in mind.

Six out of every ten students reported field experiences were an important part of their contract activities. Field work experience covered such activities as present

work experience (49%), volunteer social service (20%), visits to community agencies (16%) and observation of community activities (20%). Logs or journals of contract learnings were kept by 60% of the students. The primary purposes of the logs were to record learnings (60%) and to reflect on them (31%). Tutors were used in half the contracts. Tutors were employed as specialists in the subject (53%), for guidance in content areas (31%) or to discuss ideas (12%). Very few students reported that they used tutors for remedial work (4%).

About one-third of the contracts included use of group studies* and local libraries while one quarter of the students reported using periodicals and ESC modules. Most of the students who used modules found them a helpful guide (40%), generally excellent (32%), useful in parts (9%) or generally stimulating (7%). About 17%, however, found modules vague, confusing, or simply not very helpful.

One of every six students took courses at other colleges in the state. Another ten percent took advantage of SUNY independent study courses and over 70% of these students found them to be helpful. A wide variety of other learning resources were used in student contracts. See Table 11 for a listing of these resources. It is clear from the data reviewed here that the students were taking advantage of community learning resources as well as many other kinds.

Although the percentage of students using these resources varied by contract purpose and student interest, the students generally evaluated these resources as adequate to excellent in meeting their academic needs.

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*Although most of the contract work was done through the independent study mode with little direct instruction, students periodically work with other students and mentors on similar learning contracts. Group studies have taken the form of weekend seminars, special workshops, and intensive short term residencies.

Evaluation of Learning Contract Method

A series of questions asked the students to evaluate the contract method of learning in terms of its strengths and weaknesses as well as compared to more traditional classroom methods. Since most of the students had two or three years of previous college work in traditional settings and some were taking college courses as part of their contract work, the students were in a unique position to compare traditional and nontraditional methods. Almost half (47%) of the students rated the learning contract method as very superior to traditional methods of learning and another 2 percent said it was somewhat better. Fifteen percent said the two methods were comparable but only three percent found the contract method inferior to classroom instruction (Table 12).

When students were asked to compare the learning contract method with the traditional method concerning their personal development, 60 percent checked "much more valuable than a regular college course," fourteen percent said "a little more valuable" and another fourteen percent indicated "about the same as previous course work." Again, only three percent found the contract method less valuable (Table 13). On the basis of these two questions, three quarters of Empire State's students found the learning contract method superior to traditional methods.

We asked the students to identify the major strengths and weaknesses of learning contracts. The top two strengths identified by the students were flexibility (51%) and the opportunity for self-directed learning (39%). The contract process helped sixteen percent of the students clarify their educational goals and another twelve percent appreciated the noncompetitive aspects of contract learning (Table 14).

Nine out of ten students did not mention weaknesses in the learning contract process. A small minority of students did indicate that more group exchanges were needed (12%), that the required self-discipline and motivation was too difficult (10%) and that writing contracts to ESC standards and evaluating work completed was too

hard (9%). Seven percent of the students gave each of the following reasons as weaknesses: difficult to allocate right amount of time to contract work; hard to amend contracts to explore other interests; and books and tutors were hard to find. Six percent of the students stated that the contract method relies too much on a single mentor for planning, guidance and instruction. All of these reasons cited as weaknesses point to the fact that a minority of students are not well prepared for independent study and need more structure to their learning experiences at the beginning of their ESC work.

What this review of different dimensions to contract learning at ESC tells us basically is that the contract mode seems particularly well designed to meet most students' needs. Students and mentors met frequently and concentrated on the academic work set forth in the contract. A wide range of learning resources were utilized in meeting contract objectives and most students evaluated the resources as more than satisfactory for their learning. Students evaluated the contract method as superior to traditional methods and reported few weaknesses in the present contract operation.

Educational Outcomes

There are many ways to identify, conceptualize and measure educational outcomes (Feldman and Newcomb 1969; Micek and Wallhaus 1973; Lawrence et. al., 1970; Lenning 1974; Astin, 1974b and Bowen, 1974). The Research staff have identified and conceptualized eight different outcomes which can be analyzed at three different levels: the institutional, the program and individual (Palola et. al., 1974). Institutional outcomes refer to how well the college objectives are being achieved especially by students as they move through the educational program. Program outcomes are defined, usually by the faculty, as those desirable impacts that the educational program is designed to achieve at certain minimal levels of quality in order to award a degree. Individual outcomes refer to the goals and competencies that each student would like to achieve as he completes his degree program. The following analysis looks at those outcomes

which are basically derived from the institutionally defined objectives. In later reports, we shall analyze degree program and student outcomes.

Empire State College has a set of educational objectives and competencies that should be met by all students at some point in their overall degree program. Some students may have developed these competencies prior to entering Empire while other students focus on particular objectives during one or more of their contracts. These educational objectives are broken down into two major groupings - cognitive and affective (ESC, Self-Study Report, 1974, pp. 12-13). The development of these educational objectives followed from the work of Bloom, Chickering, and others and were incorporated into the framework and operation of the College (ES Bulletin, 1973, 1975; Bloom, et. al. 1956, 1964; Chickering 1969).

In the Student Experience Questionnaire, we took the cognitive and affective objectives and operationalized them as outcomes which the students could evaluate as part of their contract learning. For example, we took the conceptual outcome, ability at analysis, and defined it as the ability to break down a communication or experience into its basic elements and to make explicit the relationships among them. The ability to recognize unstated assumptions, the skill to distinguish facts from hypotheses and the ability to detect logical fallacies in an author's argument are illustrative examples of analysis competencies. Each student was asked to rate how much contract time was spent in analysis activities on a four-point scale from "very little" to "almost all his time." We followed a similar process for every outcome used in the survey. See Tables 15 and 16 for the specific outcomes, the definitions used, and the results for each rating category.

When we examined the cognitive outcomes, we found that students emphasized the time spent in analysis (78% spent a great deal or almost all their time) and synthesis (80% in same categories) while stressing to a somewhat lesser extent time spent in evaluating (63%) and applying (65%). Memorizing took up relatively little time (14%)

for most students (Table 15). The low memorization rate may mean that absorption of factual knowledge and concepts may be underemphasized in certain fields which require substantial knowledge bases in order to do advanced work. On the other hand, the College stresses competence in higher order cognitive processes and the data show students spending their contract time developing these skills. It seems that mentors have found ways to get students engaged in complex mental activities.

One of the special features of ESC is the interest given to objectives in the affective domain. As a consequence of study at the College, students are expected to develop increasing awareness of social relationships, to refine and clarify their purposes, to become more independent, to improve their understanding of themselves and others, and to work effectively with others.

How well is the College achieving these objectives? We asked students to evaluate affective outcomes resulting from their contract learnings and experience at the College. Over two-thirds of the students reported that the College had influenced to a moderate or major extent their competencies in increasing awareness (70%); self-understanding (68%) and self-reliance (66%). About six out of every ten students indicated that clarifying purposes and self-consistency were realized to a moderate or major extent (Table 16).

The affective outcomes showing the least impact from contract learning were interpersonal competence and understanding of others. Fox example, only 15 percent of the students reported that contract learning influenced their interpersonal competence to a major extent. The College's emphasis upon independent study and lack of contacts with other students may make it more difficult for students to achieve substantial gains on these objectives. Many students, however, were employed in occupations that require frequent use of interpersonal skills. Forty-eight percent of the students said they held jobs in such occupations as professional, semi-professional,

executive, supervisor, and small business (Table 2). Perhaps ESC students in these occupations already had high skills in interpersonal competence at entrance. Unfortunately, we do not have data to test this possibility but future surveys will provide us with this information.

Two additional cognitive outcome items were evaluated by students. Over three-quarters of the students said they increased their intellectual competence and curiosity (to a moderate or major extent) as a result of their contract learning. Sixty-four percent of the students reported they increased their job related competencies also. These contract results fit rather well with the reasons for enrollment at ESC. It appears that the practical interests of students and the more intellectual and developmental interests of mentors blend well in the contract format of ESC experience.

Students were also asked to evaluate the quality of their learning and general satisfaction with their educational experiences at the College. Forty-one percent of the students stated that the quality of their learning experiences was more than adequate, anotner 46 percent found the quality adequate while only seven percent indicated insufficient quality in their learning experiences. Two percent reported that assessment of quality was not present in their ESC experiences (Table 17). In terms of the general level of satisfaction with their educational experiences at the College, students were very well (63%) or fairly well (30%) satisfied. Only five percent indicated they were not satisfied while two percent did not answer the question (Table 18). On these general satisfaction items, the College has successfully met student needs and expectations for their degree programs.

Initial Findings on Independent and Dependent Learners

We have analyzed the data beyond the descriptive statistics presented so far by investigating whether or not the College attracted students who were more or less

independent learners. We classified the students in terms of the degree of independence they expressed in relation to their mentor. Students were defined as dependent learners if their mentors presented knowledge to them, assigned readings for them to master and structured their learning experiences. Students were defined as independent if they took principal responsibility for their learning and used their mentor mainly as a resource person. The distribution of these types of learners including a mixed group were presented in Table 7. We then examined how the dependent and independent learners experienced contract learning, how satisfied they were and what kinds of educational outcomes they achieved as a result of their learning (Warren 1974).

Compared to the more dependent learners, the independent learners rated the contract method as superior to traditional methods,* rated the learning contracts as more valuable than college courses for personal development,* perceived their mentors as more approachable* and met with their mentors less frequently.* Independent learners experienced during their contracts the feelings of being confident and competent,* of being challenged to do their best thinking,* of finding the connections of life and learning exciting,* and of obtaining learning resources when needed.* On the other hand, dependent learners were more likely to experience feelings of boredom and disinterest,* of worry over mentor evaluation,* of confusion and lack of clarity about what they were doing,* of being worried and tense, and of using learning resources that opened up new worlds to them.* Although the worried and tense item was not statistically significant, there was a moderate percentage difference in the direction of dependent learners being more worried. The item, learning resources opened up new worlds, may be partly explained by the dependent learners relying on their mentors to suggest learning resources appropriate to their interests. With this

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*All relationships marked with an asterisk were statistically significant at the .05 level using the chi square test.

possible exception, all the experience items regarding contract learning fall into expected patterns -- the positive items associated with the independent learners and the negative items associated with the dependent learners.

When examining the cognitive outcomes, we expected to find the independent learners revealing higher order cognitive outcomes. This expectation did not turn out to be clear-cut between dependent and independent learners. On the analysis and syntnesis outcomes, the two groups were not significantly different, while more dependent students spent a greater percentage of their time memorizing. Again this relationship was not statistically significant. For the evaluating* and applying* outcomes, however, the independent learners were significantly more likely to report a great deal of time spent on these competencies. Two other cognitive outcomes, increasing intellectual competence* and curosity and increasing job related competence,* were significantly related to the more independent learners.

For the affective domain, the independent learners reported significant outcome gains in increasing awareness,* clarifying purposes,* and understanding of others.* The dependent learners were more likely to be self consistent* while neither group reported significant differences for interpersonal competence and self-understanding. The number of students falling into the mixed group clouded somewhat the picture for all developmental outcomes.

There is a tentative conclusion to be drawn here, however. The independent learners seemed to be more willing to explore knowledge external to themselves (openness to new ideas, understanding other cultures and people), especially when this knowledge is not gained through direct personal contact. Both independent and dependent learners reported that the College did not influence them in those areas of direct personal interaction (interpersonal competence and self-understanding). It may be that independent learners were already competent in interpersonal skills at entry

and did not see the College having a major impact here. This question will be explored in subsequent research. Tables 19 and 20 illustrate the kinds of relationships between dependent and independent learners appropriate to this discussion.

One of the most surprising findings of this analysis was that not one of the twenty different learning resources turned out to be associated with the independent learners. Since data was collected from the students about a wide variety of learning resources, we expected to see different patterns of use for the students. It seems that behavorial indicators of this type do not vary significantly with the degree of independence.

Finally, independent learners were more satisfied with the quality of their learning,* and expressed higher general satisfaction with their learning experience* at the College than did dependent learners.

Some Implications of Contract Learning for Other Colleges

Several implications of contract learning for other colleges may be drawn from the data presented in this paper. First, contract learning seems a particularly well suited format for a certain type of student. For the older, working, married adult who may have attended several colleges some years ago, contract learning provides both the structure and flexibility needed. Often carrying heavy work, family and community responsibilities, this student generally has high motivation to obtain a degree. He needs an educational setting outside the constraints of the typical classroom and campus. He needs access to education that fits within his busy daily schedule, that allows him to proceed independently at his own pace and that provides a challenging evaluation of the learning that occurs. The contract-mentor system fits these conditions of learning well. For other colleges thinking about initiating contract learning programs or for those colleges already operating adult education, continuing

education or independent study programs, the older adult student seems to be an important clientele not only to be served but a clientele that is most likely to benefit educationally from a contract learning approach.

Second, our findings indicate that students differ at entry and throughout the degree program in their ability to handle independent study. Those students identified as the more independent learners clearly evaluated their contract experiences much more favorably than dependent learners. They also reported that the College had a moderate or major impact upon the attainment of cognitive and affective competencies. On the other hand, those students who are younger, who lack clearly specified goals or who need more structured learning conditions during their initial contracts require sensitive mentors who recognize and provide appropriate educational supports.

Third, because the contract method relies almost exclusively upon a single mentor to work effectively with a variety of dependent and independent students, the role of the mentor becomes crucial if the College is to foster self directed learning. An experienced, resourceful and mature group of faculty committed to the ideal of independent learning is needed to effectively work with students having different styles of learning. For students initially requiring a more structured faculty response, faculty must be available, must be willing to put in extra time and must have the patience necessary to create the conditions whereby the students will accept greater responsibility for their own learning. This type of faculty member is not prepared by major graduate universities where the emphasis is upon disciplinary specialization and research oriented activities. Recruiting of a resourceful faculty attuned to contract learning may be an arduous and time consuming task. Furthermore, research data on ESC mentors consistantly show that they would prefer more professional development time during their normal work week. Colleges adopting the contract learning method must be prepared to support and reward faculty in very different ways than the traditional setting does.

Finally, the contracting process itself has substantial educational benefits apart from the subject matter the contract addresses. The very act of negotiating a contract between a student and his mentor may be a valuable learning experience. By raising questions about a student's goals and life plans, his specific objectives for a particular learning contract, the kinds of learning activities and resources to be used and the ways in which the learning will be evaluated, the student-mentor dialogue stimulates the student to think seriously about his education. Such discussions tend to promote mature thought by a student about his own intellectual and self development and about the relevance of a particular learning activity for that development. The contract format facilitates the student taking direct personal responsibility for his own learning and for gaining skills in self direction. By thinking carefully about the topics to be learned, by searching out learning activities and resources beyond the campus and by gaining evaluation experience in self assessment, the student has prepared himself for a process of life-long learning that should carry beyond any given contract and the achievement of a degree. Many colleges profess life-long learning as a central educational objective but lack a framework that structures actual learning toward this goal. Contract learning is one method that may structure undergraduate learning beyond the achievement of a degree.

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Appendix A

Table 1 Age Distribution of ESC Students

Age	Number	Percent
22 or younger	48	(10)
23 - 27	89	(19)
28 - 32	60	(12)
33 - 37	49	(10)
38 - 42	58	(12)
43 - 47	64	(13)
48 - 52	50	(11)
53 - 57	42	(9)
58 and older	16	(3)
No answer	7	(1)
Totals	483	(100)

Average Age 37

Median Age 37

Mode 26

Age Range 19 - 68

Table 2 Occupations of ESC Students

Occupational Category	Number	Percent
Professional	52	(11)
Semi Professional	100	(21)
Executive	5	(1)
Supervisor	69	(14)
Technical	28	(6)
Small Business	5	(1)
Skilled Trade	6	(1)
Semi-Unskilled	98	(20)
Art - Inter. Design	10	(2)
Housewife	42	(9)
Student	38	(8)
Not Employed	16	(3)
Retired	3	(1)
No Answer	11	(3)
Totals	483	(101)

Table 3 Educational Background of ESC Students

Highest Level of Formal Education	Number	Percent
Some High School	4	(1)
Graduated High School	36	(7)
Some College	239	(50)
AA or Equivalent	141	(29)
BS - BA	5	(1)
Some graduate or professional training	29	(6)
Graduate or Professional Degree (MA, LLB, MD, etc.)	8	(2)
Trade School	5	(1)
Trade School Graduate	16	(3)
Totals	483	(100)

Table 4 Top Three Reasons Students Gave for Enrolling At ESC

Reasons	1st Reason N	%	2nd Reason N	%	3rd Reason N	%
Receive credit for prior learning	171	(35)	96	(20)	65	(14)
Independence allowed by ESC	146	(30)	104	(22)	76	(16)
Flexibility - work as well as study, live at home and attend ESC; class attendance not required	97	(21)	132	(27)	164	(34)
Special programs offered by ESC	25	(5)	66	(14)	51	(11)
Chance to obtain a degree quickly	18	(4)	40	(8)	40	(8)
Recommended by ESC students, spouses, parents, employer	11	(2)	18	(4)	25	(5)
Low tuition of ESC	4	(1)	13	(3)	29	(6)
Not accepted by another college	1	(.2)	1	(.2)	0	(0)
No Answer	10	(2)	13	(2)	33	(6)
Totals	483	(100)	483	(100)	483	(100)

Table 5 Top Three Reasons Students Gave for Studying at ESC

Reason	1st Reason N	1st Reason %	2nd Reason N	2nd Reason %	3rd Reason N	3rd Reason %
Academic preparation for graduate/ professional school	144	(30)	92	(19)	52	(11)
Vocational advancement/new careers	142	(29)	110	(23)	79	(16)
Satisfy personal desires for college education and increase ability for self-directed learning	97	(20)	114	(24)	137	(28)
Liberal arts objectives (i.e., increase appreciation of art, mus c, literature)	55	(11)	74	(15)	66	(14)
Make money and improve social status	9	(2)	42	(9)	77	(16)
Become involved in social and political issues and participate effectively as citizen in community	17	(4)	26	(5)	39	(8)
No answer	19	(4)	25	(5)	33	(7)
T O T A L S	483	(100)	483	(100)	483	(100)

Table 6 Student Influence on Contract Preparation

Student Influence on Contract Preparation	N	%
Student selected topic, learning resources, evaluation methods and criteria, wrote first and subsequent drafts of contracts	97	(20)
Student selected topic, most of resources, wrote first draft of contract. Mentor wrote final contract and suggested evaluation methods and criteria.	130	(27)
Student selected topic, most of resources, wrote outline of contract. Mentor wrote contract and determined strategy evaluation.	90	(19)
Mentor helped select topic, learning resources and provided outline for contract. After discussion, mentor wrote contract and determined evaluation strategy.	124	(26)
No answer	42	(8)
Totals	483	(100)

Table 7 Student Perception of Mentor Role During Contract Learning

Mentor Role	N	%
Mentor presents knowledge, assigns readings to master and projects to complete	33	(7)
Mentor directs his effort flexibly to help student learn what is set forth in contract	87	(18)
Mentor and student work together so that both increase understanding of student objectives and work contract	170	(35)
Mentor serves mainly as a resource person and student has responsibility for contract activities	170	(35)
No answer	41	(8)
Totals	483	(100)

Table 8 Frequency of Student-Mentor Contact

Frequency of Contact	N	%
Daily	3	(0.6)
Twice a week	22	(5)
Once a week	102	(21)
Once every two weeks	155	(32)
Once every three weeks	72	(15)
Once a month	53	(11)
Once every two months	25	(5)
As need arises	16	(3)
Beginning-end of contract	5	(1)
Never	2	(0.4)
No answer	28	(6)
Totals	483	(100)

Table 9 Contract Time Spent Talking With Mentor on Various Trips (in percent)

Contract Topic	Amount of Time Talking					
	Very Little	Some	A Great Deal	Almost All Time	No Answer	Total
Actual content of learning contract	2	20	50	26	2	100
Planning and evaluating contracts	6	32	47	13	2	100
Learning resources for contract use	15	40	36	7	2	100
Ideas on future educational/vocational plans	16	47	33	3	1	100
General topics in mentor's field of interest	24	44	26	3	2	100
Program of study	7	20	18	2	53	100
Other general conversations, either serious or light	22	58	16	2	2	100
Administrative problems (e.g., scheduling, billing)	55	36	7	1	1	100
Problems from personal life	66	24	7	1	2	100

Table 10 Student Feelings Experienced During Current Learning Contract (in percent)

Student Feeling	Frequency of Experience				Total
	Never	Occasionally	Frequently	No Answer	
Interested	1	7	87	5	100
Find connections of life and learning exciting	2	13	81	4	100
Challenged to do my best thinking	2	13	79	6	100
Learning resources available when I need them	3	16	75	6	100
Mentor meetings stimulate my thinking	4	20	71	5	100
Confident	3	19	73	5	100
Learning resources open up new worlds to me	4	28	62	6	100
Worried about mentor evaluation of work	28	54	13	5	100
Worried and tense	30	55	10	5	100
Confused about what I am doing	47	40	7	6	100
Bored	69	20	4	7	100

Table 11 Student Use of Various Learning Resources

Kind of Learning Resource/Activity	Number	Percent*
Field or work experience	300	62
Kept log or journal of learnings	291	60
Tutors	231	48
Group studies and workshops	169	35
Libraries	159	33
Periodicals	130	27
ESC learning modules	119	25
Written tests to evaluate contract work	89	18
Other college courses	76	16
Audio-visual materials	71	15
Professionals in the field-direct contact	69	14
SUNY independent study course	49	10
Interviews in community	37	8
Work in community organization	27	6
Lectures in community	21	4
State level organizations	11	2
Federal level organizations	9	2
Travel	6	1
Field trips	6	1
Various other resources	21	4

*Percentages were computed on total sample of 483 respondents for each learning resource.

Table 12 Student Rating Present Learning Contract As Method of Learning Compared to Classroom Methods

Rating of Learning Contract As Method of Learning	N	%
Very superior to traditional methods of learning	229	(47)
Somewhat better than traditional methods of learning	131	(27)
Comparable to traditional methods of learning	72	(15)
Somewhat inferior to traditional methods of learning	11	(2)
Very inferior to traditional methods of learning	5	(1)
Not applicable - student not taken any courses and has no basis to compare	22	(5)
No answer	13	(3)
Totals	483	(100)

Table 13 Student Rating of Contract Learning Compared To College Courses Concerning Personal Development

Rating of Learning Contract for Personal Development	N	%
Much more valuable than a regular college course	288	(60)
A little more valuable than a regular college course	66	(14)
About the same as previous course work	66	(14)
A little less valuable than a regular college course	11	(2)
Much less valuable than regular college course	5	(1)
Not applicable - student not taken any courses so no basis for comparison	29	(6)
No answer	18	(3)
Totals	483	(100)

Table 14 Student Evaluation of Major Strengths and Weaknesses of Learning Contract Method (in percent)

Major Strengths of Contract Method	Mentioned	Not* Mentioned	No Answer	Total
Flexibility (e.g., no required courses)	51	39	10	100
Self-direction - can explore own interests	39	51	10	100
Clarifies my educational goals and expectations	16	74	10	100
Noncompetitive with other students (set own learning pace)	12	78	10	100
Combine study and work	9	82	10	100
Satisfying mentor relationship	7	83	10	100
Concentrate on one area of study at a time	5	85	10	100
Nontraditional resources available	4	86	10	100

Major Weaknesses of Contract Method	Mentioned	Not Mentioned	No Answer	Total
Need group exchange	12	66	22	100
Need self-discipline and motivation	10	68	22	100
Difficult to write contract to ESC standards and hard to evaluate work done	9	69	22	100
Difficult to allocate right amount of time contract work	7	71	22	100
Inflexible contract framework; hard to amend; can't explore other interests	7	71	22	100
Books and tutors hard to find	7	71	22	100
Too dependent on a single mentor	6	72	22	100
More structure needed	3	75	22	100

*The questions on contract strengths and weaknesses were open ended. The no answer column means that students did not answer the question at all. Since students could provide more than one response (and many did), the Not Mentioned column indicates that the student provided at least one response to the question.

Table 15 Students Evaluation of Contract Time Spent on Cognitive Outcomes (in percent)

Cognitive Outcome	Very Little	Some	A Great Deal	Almost All the Time	Unsure	Answer	Totals
Memorizing (learning specific facts, ideas and methods so that you can recall them pretty much in same form you encountered them)	49	34	11	3	2	1	100
Analyzing (breaking down an experience or theory into its basic elements)	1	18	59	19	1	2	100
Synthesizing (organizing ideas, information and experience into new relationships or frameworks; ability to perceive patterns and parallels as well as discontinuities)	1	16	53	27	2	1	100
Evaluating (making quantitative and qualitative judgments about the value of information, arguments and methods)	5	29	47	16	2	1	100
Applying (using theories or concepts in practical activities or in new situations)	7	24	44	21	2	1	100

Table 16 Student Evaluation of Affective Outcomes As A Result of Contract Work (in percent)

Affective Outcome	Not At All	To A Minor Extent	To A Moderate Extent	To A Major Extent	No Answer	Total
Awareness (openness to new ideas and experiences)	9	18	33	37	3	100
Self-Understanding (process of self-examination and discovery of motives, strengths and weaknesses)	9	20	31	37	3	100
Self-Reliance (capacity to act independently)	14	16	26	40	4	100
Clarifying Purposes (concerns vocational interests and general life style and values)	13	23	32	28	4	100
Self-Consistency (clarification of attitudes and values so that words and actions are in harmony)	14	23	35	23	5	100
Understanding of others (capacity to move beyond simple relationships to understanding of diverse kinds of people and conditions of their existence	18	26	31	21	4	100
Interpersonal competence (ability to interpret attitudes of others and to improvise appropriate response)	18	27	36	15	4	100
Increased my intellectual competence and curiosity	5	12	32	47	4	100
Increased my job related competence	18	13	27	37	5	100

Table 17 Students Satisfaction With The Quality of Their Learning

Satisfaction With Quality of Learning	N	%
Not present in student's learning experience	12	(2)
Present but inadequate in learning experiences	33	(7)
Adequate in student's learning experiences	221	(46)
More than adequate in learning experiences	199	(41)
No answer	18	(4)
Totals	483	(100)

Table 18 Students General Satisfaction With Their Educational Experiences at the College

Level of Satisfaction	N	%
Very well satisfied	303	(63)
Fairly well satisfied	147	(30)
Not very well satisfied	20	(4)
Not satisfied at all	5	(1)
No answer	8	(2)
Totals	483	(100)

Table 19 Student Evaluation of Cognitive Outcome Application By Degree of Student Independence

Time Spent in Application Skills	Degree of Independence						Totals	
	Dependent		Mixed		Independent			
	N	%	N	%	N	%	N	%
Very Little or Some	14	(47)	73	(30)	45	(30)	132	(31)
A Great Deal	13	(43)	119	(48)	66	(45)	198	(47)
Almost All My Time	3	(10)	54	(22)	37	(25)	94	(22)
Totals	30	(7)	246	(58)	148	(35)	424*	(100)

X^2 = 11.02; d.f. = 4; p = <.02

*The total number of students in the sample was 483. In this table and table 20 the respondents who did not answer or were in the other category are excluded, thus reducing the total number of cases by about 50.

Table 20 Students Satisfaction with the Quality of Their Learning

Satisfaction With Quality of Learning Experiences	Degree of Independence						Totals	
	Dependent		Mixed		Independent			
	N	%	N	%	N	%	N	%
Not present in student's experience	1	(3)	3	(1)	4	(2)	8	(2)
Present but inadequate	8	(25)	11	(4)	10	(7)	29	(7)
Adequate	14	(44)	118	(48)	75	(51)	207	(48)
More than adequate	9	(28)	116	(47)	58	(40)	183	(43)
Totals	32	(8)	248	(58)	147	(34)	427	(100)

$X^2 = 22.41$; d.f. = 6; $p = <.01$.